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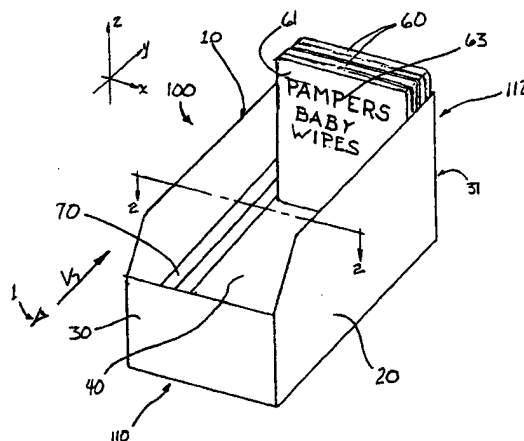
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(54) Title: **SHIPPING AND DISPLAY CARTON**



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(57) Abstract: The present invention comprises a container (100) adapted for use as a shipping carton and a display container. Individual product items (60) for sale can be shipped in the container (100) of the present invention, and at the time of sale can be displayed in the same container (100). The container (100) comprises a resiliently flexible portion (70) which can provide a compressive force on the individual product items (60), thereby aiding the product items (60) in remaining in an upright, vertical orientation. Therefore, the improvement of the present invention provides for improved support of the product (60) from the time of shipping through final consumer purchase. In one embodiment a container (100) for retaining at least one article (60) having an article (60) width in a predetermined position, the container (100) comprises a first side (10) and a second side (20), the first (10) and second sides (20) being in opposed, generally parallel spaced apart relationship to each other. A resiliently flexible portion (70) is disposed on at least a portion of at least one of the first (10) or second sides (20), the resiliently flexible portion (70) being compressible in a direction generally orthogonal to the first (10) or second side (20).

SHIPPING AND DISPLAY CARTON

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FIELD OF THE INVENTION

This invention relates to containers which can be used to ship a product and subsequently display the product on a store shelf. This invention particularly relates to such containers adapted to support the remaining product in a predetermined position as individual product units are removed from the container.

10

BACKGROUND OF THE INVENTION

It is known to provide containers useful for shipping and displaying individual products, such as packets of food, tobacco products, compact discs, and other products intended for individual sale. Such containers typically have a removable top, such as a box top, which is repositioned or discarded, while the remaining portion of the container or box is placed directly on a store shelf, for example, with the contents then available for sale to the consumer.

Many products, such as compact discs, many food containers, books, and the like have broad display sides, with other sides that are relatively narrow. Premoistened baby wipes in compact travel packs are another example of such products. Such products generally have product identification, trademarks, and other identifying indicia on the broad faces, and can be packaged with their broad sides oriented generally vertically such that when displayed from the same container the broad sides are presented to the consumer, facilitating easy buyer recognition. In this manner, the product identification, advertising, and other product information is in plain view, and the product can be easily and quickly identified by the consumer. Once the front-most product is removed by the consumer, the next adjacent product

is presented for consumer sale, with its broad side presented for easy recognition, and so on.

One drawback to displaying products in this manner, is that after one or more products have been removed from the display container, the remaining products tend
5 to lean or fall forward into the space created by the removal of products. Once this happens, and particularly if all the remaining product becomes fallen over, the broad face of any product having identifying information is no longer presented to the consumer. The container may even appear empty, when in fact some product remains. Furthermore, the container of fallen product is not aesthetically pleasing,
10 having a disorganized, "picked over" appearance. Therefore, one result of having unstable product that becomes fallen over is lost sales due to lack of product recognition because the broad face of the product is face down in the container.

Attempts have been made in the past to remedy the above-described problem by providing means for supporting the individual products in a generally vertical
15 position. For example, U.S. Patent No. 3,669,251, issued June 13, 1972 to Phillips teaches a carton with two inwardly facing support flaps that cooperatively engage the articles to provide support. A similar container is taught in U.S. Patent No. 4,452,847, issued September 24, 1985 to Linstrom, the container having an inwardly
20 extending tab to engage product so as to retain the product in a generally upright position. Both of these inventions appear to require the person preparing the display to fold article-engaging flaps or tabs into position. Also, once folded, the article-engaging flaps or tabs can easily become unfolded to a such a degree that they fail to serve their article holding function. Such unfolding can occur by frictional drag as articles or products are removed from the display container.

25 Other methods of forming display containers include various cut out and hinged members. For example, U.S. Patent No. 3,696,940, issued October 10, 1972 to Hoffman et al. is an example of this approach. Hoffman et al. teach scoring and cutting portions of the container to be hinged and folded to form "partial shelves" that prevent prepackaged or rigid items from slipping in the carton and thus have a
30 satisfactory and neat display. However, this approach requires a specific container design for different sized articles displayed within. It is also relatively expensive to produce, with the additional scoring, cutting, and folding steps involved.

Accordingly, there is a continuing need for a relatively inexpensive to produce container for shipping and displaying vertically-standing product.

Additionally, there is a need for a container for shipping and displaying vertically-standing product that does not require a flap folding or bending step.

Finally, there is a need for a container for shipping and displaying vertically-standing product that is capable of retaining product articles so shipped/displayed therein in a generally stable upright position after some of the articles have been removed.

SUMMARY OF THE INVENTION

The present invention comprises a container adapted for use as a shipping carton and a display container. Individual product items for sale can be shipped in the container of the present invention, and at the time of sale can be displayed in the same container. The container comprises a resiliently flexible portion to provide a compressive force on the individual product items, thereby aiding the product items in remaining in an upright, vertical orientation. Therefore, the improvement of the present invention provides for improved support of the product from the time of shipping through final consumer purchase.

In one embodiment a container for retaining at least one article having an article width in a predetermined position, the container comprises a first side and a second side, the first and second sides being in opposed, generally parallel spaced-apart relationship to each other. A resiliently flexible portion is disposed on at least a portion of at least one of the first or second sides, the resiliently flexible portion being compressible in a direction generally orthogonal to the first or second side, thereby providing a stabilizing or restoring force sufficient to support the article in a predetermined position.

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BRIEF DESCRIPTION OF THE DRAWINGS

While the specification concludes with claims particularly pointing out and distinctly claiming the present invention, it is believed that the present invention will be better understood from the following description in conjunction with the accompanying Drawing Figures, in which like reference numerals identify like elements, and wherein:

30

FIG. 1 is a perspective view of one embodiment of the present invention;

FIG. 2 is a cross-sectional view of a portion of the container shown in FIG. 1 at 2-2;

FIG. 3 is a partial perspective view of one embodiment of a resiliently flexible portion of the present invention;

FIG. 4 is a partial cross-sectional view of another embodiment of a resiliently flexible portion of the present invention; and

FIG. 5 is a partial cross-sectional view of another embodiment of a resiliently flexible portion of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

The present invention comprises a container adapted for use as a shipping carton and a display container. Individual product items for sale can be shipped in the container of the present invention, and at the time of sale can be displayed in the same container. The container comprises a resiliently flexible portion to provide a compressive force on the individual product items, thereby aiding the product items in remaining in an upright, vertical orientation. Therefore, the improvement of the present invention provides for improved support of the product from the time of shipping through final consumer purchase.

The container is especially useful for shipping and displaying generally rectangular, thin, products with graphics on the front sides which are stacked in a generally upright, in-file fashion in the container. Such products are prone to falling over once adjacent product is removed. For example, when relatively flat, generally rectangular shaped containers of wet wipes, such as PAMPERS® Baby Fresh pre-moistened wet wipes in a travel pack, are packaged in an upright "on edge" configuration, the individual containers tend to fall down into the display box after a certain number have been removed. Once fallen down, the remaining travel packs no longer present their broad, flat sides to the consumer. Therefore, a certain loss of sales can be expected due to lack of consumer recognition.

The present invention is now described in detail with reference to the drawing figures, in which like reference numerals identify like elements.

One embodiment of the present invention is shown in FIG. 1. Container 100, suitable for transportation, storage, and display of a plurality of articles 60, comprises a box-like structure having at least a first side 10 and an opposing and generally parallel spaced apart second side 20. The first and second sides are preferably connected by at least one connecting side 30, which joins, and provides structural support to, both first and second sides. In a preferred embodiment, two connecting sides 30, 31 are used, such that the structure is a box having four generally vertical sidewalls being interconnected at four corners. A bottom 40 can serve to connect all the sidewalls as well, the bottom 40 also providing support to the articles 60 stored within container 100. Each of the sides and bottom have inner surfaces and outer surfaces, the inner surfaces being disposed toward the interior of container 100, and the outer surfaces being disposed toward the exterior of the container 100.

For purposes of description herein, the container 100 of the present invention is described with reference to a front 110 and back 112, the front 110 being disposed closest to a viewer 1 looking in the direction marked "V" in FIG. 1. Thus, when a consumer is shopping, and the container is being used as a display container on a store shelf, the front 110 of the container is nearest the consumer, and the front side 61 of article 60 (which "front side" may be described as the "top" of the article once removed and in use by the consumer) is visible. In this manner, identifying indicia 63 including product markings, advertising, and other recognizable markings of the forward-most article 60 are viewable by the consumer who is thus aided in making a purchasing decision.

The container can have a top (not shown) which is removable after shipping, leaving the container 100 to be used as a display unit, or display tray, for articles 60. The container top can be of any type conventional in the art for shipping, and need only provide sufficient support and article protection for shipping and storing.

Articles 60 have two major dimensions corresponding to the x-direction and z-direction as depicted in FIG. 1. The two major dimensions generally form a rectangular shape, but may form other shapes. The dimension corresponding to the x-direction in FIG. 1 is referred to herein as the width of the article, but it is

recognized that the designation of "width" is arbitrary for purposes of description and is not meant to be limiting. Likewise, the dimension corresponding to the z-direction as depicted in FIG. 1 is referred to herein as the "height" of the article, and the dimension corresponding to the y-direction as depicted in FIG. 1 is referred to
5 herein as the "depth" or "thickness" of the article. The container 100 of the present invention is best utilized if at least a portion of the two sides of the article defining its width are generally parallel, corresponding to the generally parallel side walls 10 and 20 of container 100.

As can be understood by the description herein, the container 100 of the
10 present invention provides a beneficial improvement in shipping and display containers for products such as compact discs, computer disks, books, and products packaged in relatively flat dispensers, such as make up compacts, tissue boxes, pre-moistened wipe travel packs, and the like.

Container 100 has vertical dimensions referred to herein as the height, and
15 corresponding to the z-direction, as shown in FIG. 1. Likewise, container 100 has a width dimension corresponding to the x-direction as depicted in FIG. 1. Due to the thickness of the sidewall materials, the container can have an inner width corresponding to the dimension between the respective inner faces (the inner faces being disposed toward the interior of the container 100) of the sides 10 and 20, and
20 an outer width corresponding to the respective outer faces of the sides 10 and 20. Sides 10 and 20 have a height, which are preferably equal. As shown in FIG. 1, having the front-most connecting side 30 being shorter (i.e., having a smaller vertical dimension) than first and second sides, 10 and 20, aids in product identification by a consumer.

25 Container 100 can be made of any suitable material for shipping and storing articles for consumer retail sale. In a preferred embodiment container 100 is made of paper materials, such as corrugated cardboard of sufficient size and strength. The container 100 is preferably assembled from a flat, pre-cut piece of cardboard stock and folded into its final shape by methods known in the art. In a preferred
30 embodiment the sides are folded into position and held by "tab and slot" or other

mechanical connection. However, other methods, such as adhesive bonding, stapling, and the like can also be used.

In prior art display containers, articles placed for display tend to fall forward after the forward-most articles were removed. Once fallen over, the display is ineffective, as the identifying indicia on the front of the articles is no longer visible to a viewer from the front of the container. Sales can be affected as potential consumers fail to recognize product for sale, and do not make a purchase. In addition, the fallen over articles present a disorganized look, further detracting from the salability of the articles being displayed.

The improvement of the present invention comprises incorporating a resiliently flexible portion 70 of container 100 that serves to apply pressure to portions of articles 60 such that articles 60 are constrained to remain in a generally vertically-oriented position as shown in FIG. 1. Resiliently flexible portions can be disposed on the inner face of either or both sides 10 and 20, and do not require bending of flaps, or folding of portions of the container to be effective. Thus, there is no need for post-shipping activation of the resiliently flexible portion 70 to effect stabilization of the product articles. This is a major advantage over prior art solutions to the problem of product stabilization, as discussed above.

The purpose of the resiliently flexible portion is to provide the display container 100 with a portion having an inside width dimension that is less than the width dimension of articles 60. Being resilient, the resiliently flexible portion can be deformed, for example in the x-direction, permitting snug placement of the articles in the container for shipping. In one embodiment, simply being deformed and providing a snug fit for articles 60 can be sufficient to stabilize articles 60. However, in a preferred embodiment, the resiliently flexible portion can provide a restoring force that exerts pressure on the articles 60, causing the articles to remain in the packed orientation until removed by the consumer. In a preferred embodiment, the resiliently flexible portion should exert enough force to stabilize the articles (60) without causing undue resistance to removal by the consumer. This force balance can be achieved, for example, by choosing a resiliently flexible portion

having a predetermined restoring force of sufficient amount to stabilize articles, but not more.

In one embodiment, as shown in FIG. 3, resiliently flexible portion 70 comprises a single-face corrugated cardboard member 72. The member can be in the form of a strip having a height "H" corresponding to the dimension in the z-direction; a length corresponding to the dimension in the y-direction; and a thickness "T" corresponding to the dimension in the x-direction. The single-face corrugated can be any suitable corrugated as is standard in the industry. For example, in a preferred embodiment, the corrugated is single-face, C-flute stock that have been cut into suitably-dimensioned strips and applied to a suitable portion of container 100 side 10 and/or 20. A suitable material can be obtained from Weyerhaeuser Co., described as C-flute corrugated having single face 42 pound liner with 26 pound medium flutes.

In general, the resilient flexible portion 70 can be a strip of single face corrugated paper stock with a corrugation width of about .1 mm to about 20 mm and a corrugation frequency of about .1 to about 10 folds per cm. The corrugation frequency may also be from about 2 to about 6 folds per centimeter. The corrugation frequency may also be from about 3 to about 8 folds per centimeter. In terms of industry standard sizes, the corrugated may be single face E-flute (having a thickness T of 0.050 inches (1.27 mm)), A-flute (having a thickness T of 0.2084 inches (5.29 mm)), and sizes in between.

Single-face corrugated cardboard member 72 can be a separately attached piece or strip, or it may be integrally formed into the side 10 or 20 when manufacturing the container blank, prior to forming into a box. In one embodiment, for a container having a height of about 5.625 inches (142.87 mm), single-face corrugated cardboard member 72 has a height of about 2 inches (50.8 mm) and is disposed about 1 inch (25.4 mm) from the bottom 40. In general, the height of member 72 can be from about 5% to 100% of the height of wall 10 or 20, the maximum height of member 72 being limited only by the height of sides 10 or 20 and the minimum height being determined in part by the compressive force requirements of the particular product being displayed. As a strip, single-face

corrugated cardboard member 72 can be placed a predetermined distance from the bottom of the container, the predetermined distance preferably being between about 5% to about 50% the height of wall 10 or 20, and more preferably between about 5% to about 25% the height of wall 10 or 20. The length of single-face corrugated cardboard member 72 can be the length of on side 10 or 20, as measured
5 corresponding to the z-direction.

In a preferred embodiment one single-face corrugated cardboard member 72 is placed as a strip on each side wall 10 and 20, as shown in FIG. 2. In this embodiment, each side wall with its strip member 72 is a mirror image of the other.
10 However, it is contemplated that having one single-face corrugated cardboard member 72 only on one side wall, either 10 or 20, is sufficient to provide a constraining force to the articles within the container to prevent falling over. Likewise, for some articles being displayed, more than one strip member 72 may be necessary on one or both sides 10 and/or 20.

15 When integrally formed into sides 10 or 20, one embodiment comprises forming the entire box, or at least the sides 10 or 20, of single-face corrugated cardboard stock. In this manner, the entire side 10 or 20 serves as the resiliently flexible portion 70 of container 100. Although, for certain paper stock and flute sizes this configuration results in somewhat weakened side walls, the strength can be
20 engineered to be sufficient for display purposes. For shipping purposes, the top of the container can be the primary load-bearing component.

The flutes 74 of the single-face corrugated cardboard member serve as resilient cushions that deform to provide a snug fit to the articles 60 therein. The flutes can also apply a restoring force when compressed, such that when an article is
25 placed in container 100, as long as the article has sufficient width (i.e., corresponding to the x-direction as depicted in FIGs. 1-3) to compress one or more flutes, a restoring force applies pressure to the article to constrain it in the orientation in which it is originally placed.

In general, therefore, the principle of operation for the present invention is
30 that the container 100 comprises a resiliently flexible portion 70 which is compressible and at least partially compressed when an article of sufficient size is

placed within. Once the article is placed, the resiliently flexible portion 70 of container 100 fits snugly around the edges of the article in contact with the resiliently flexible portion. In a preferred embodiment, the resiliently flexible portion applies a pressure to a portion of the article sufficient to further stabilize the article in a desired orientation, while not providing so great a pressure to prevent someone from manually removing the article when desired.

Other embodiments of the resiliently flexible portion 70 include both separately affixed members (such as the strip 72 shown in FIG. 3) and integrally formed members. Integrally formed members can include members formed by deep embossing the cardboard stock sides 10 or 20. Such deep embossing can be made by use of rolling embossing dies similar in configuration to a gear wheel that can roll over paper stock supported upon a deformable anvil. The deep embossing can permanently deform the sides 10 or 20 to effectively form a strip of resiliently flexible portion, similar in function to the affixed strip 72. In one embodiment, the deep embossed portion can include regions of complete rupture of the cardboard stock in the regions of embossing, creating one or a series of regularly spaced openings therethrough.

One example of another embodiment of a separately affixed member is the use of single-face corrugated cardboard with the flutes thereof oriented generally orthogonal to those shown in FIG. 3. For example, as shown in cross section in FIG. 4, a second embodiment of resiliently flexible portion 70 comprising a strip of single-face corrugated cardboard 72 is shown with the flutes 74 running in a direction corresponding to the y-direction (into the paper as depicted in FIG. 4).

As with the strip of single-face corrugated cardboard 72 shown in FIG. 3, the strip shown in FIG. 4 can be affixed by adhesive bonding, or other suitable bonding as is known in the art. Strip 72 may be affixed to the container blank prior to forming into a box shape, or after the box is formed and prior to packing for shipment. Whether the flutes of the single-face corrugated cardboard of the strip member 72 are oriented as shown in FIG. 3 or as shown in FIG. 4, or in some intermediate orientation, the strip provides a resilient portion that can be compressed

in the x-direction when under pressure due to the article being stored within container 100.

An example of an integrally-formed resiliently flexible portion 70 is shown in FIG. 5. As shown, resiliently flexible portion 70 comprises integrally formed portion 76, preferably formed in a container 100 comprising heavy paperboard or corrugated cardboard. In the embodiment shown, embossed ridges 78 are formed in side 10 (or 20, or both) to form resilient portions that can deflect under the compressive forces of an article being placed into container 100. As shown, the ridges run generally straight and parallel in the y-direction, corresponding to the length of the container 100. However, ridges 78 may be formed in virtually any orientation so long as they serve the function of providing a compressive force to the articles stored within container 100. Ridges may be embossed, debossed, wet-formed, press-formed, or formed in any other manner known in the art for permanently deforming paperboard, cardboard, and the like. In a preferred embodiment ridges 78 are formed when the cardboard stock is in an unfolded configuration.

Other embodiments of resiliently flexible portion 70 that can be separately affixed to container 100 can comprise plastic, such as plastic extrusion of resilient, flexible material, metal, such as thin metal spring material, or fluid-filled bladders with sufficient flexibility and integrity to withstand shipping and handling stresses.

WHAT IS CLAIMED IS:

1. A container for shipping and displaying at least one article in a predetermined position, the container comprising,
a first side and a second side, the first and second sides being in opposed, generally parallel spaced apart relationship to each other; and
5 a resiliently flexible portion disposed on at least a portion of at least one of said first or second sides, said resiliently flexible portion being compressible in a direction generally orthogonal to said first or second side.
2. The container of Claim 1, wherein said resiliently flexible portion is integrally formed in at least one of said first or second sides.
3. The container of Claim 1, wherein said resiliently flexible portion is separately affixed to at least one of said first or second sides.
4. The container of Claim 1, wherein said resiliently flexible portion is formed of deformed portions of at least one of said first or second sides.
5. The container of Claim 4, wherein said resiliently flexible portion is embossed.
6. The container of Claim 4, wherein said embossing comprises a pattern of regularly spaced ridges.
7. The container of Claim 1, wherein said resiliently flexible portion comprises single-face corrugated cardboard.
8. The container of Claim 7, wherein said single-face corrugated cardboard comprises stock ranging from A-flute to E-flute.
9. The container of Claim 1, where said resiliently flexible portion provides a restoring force sufficient to support the article in a predetermined position.

10. The container of Claim 9, wherein said restoring force acts generally orthogonal to said first or second side.

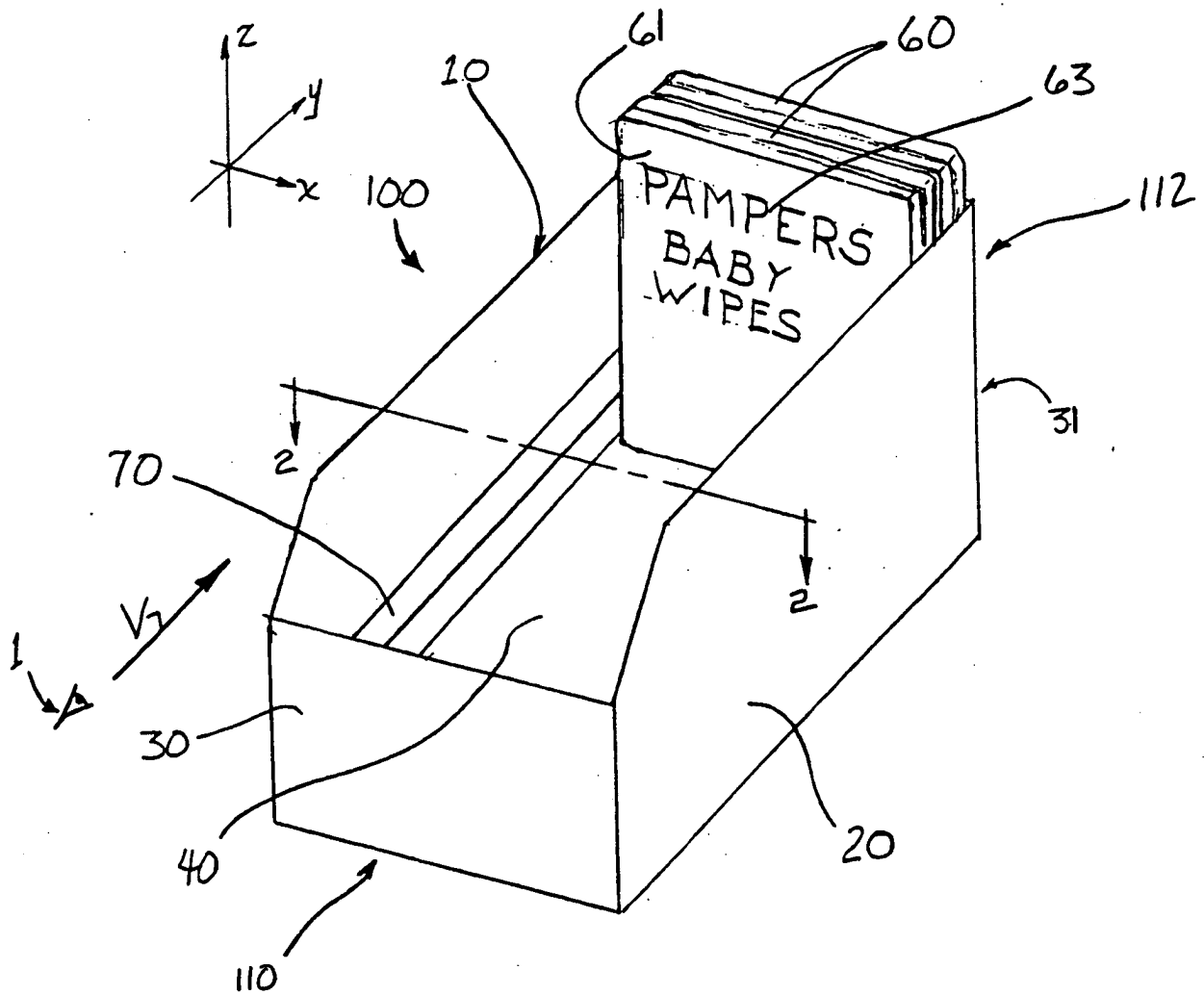


FIG 1

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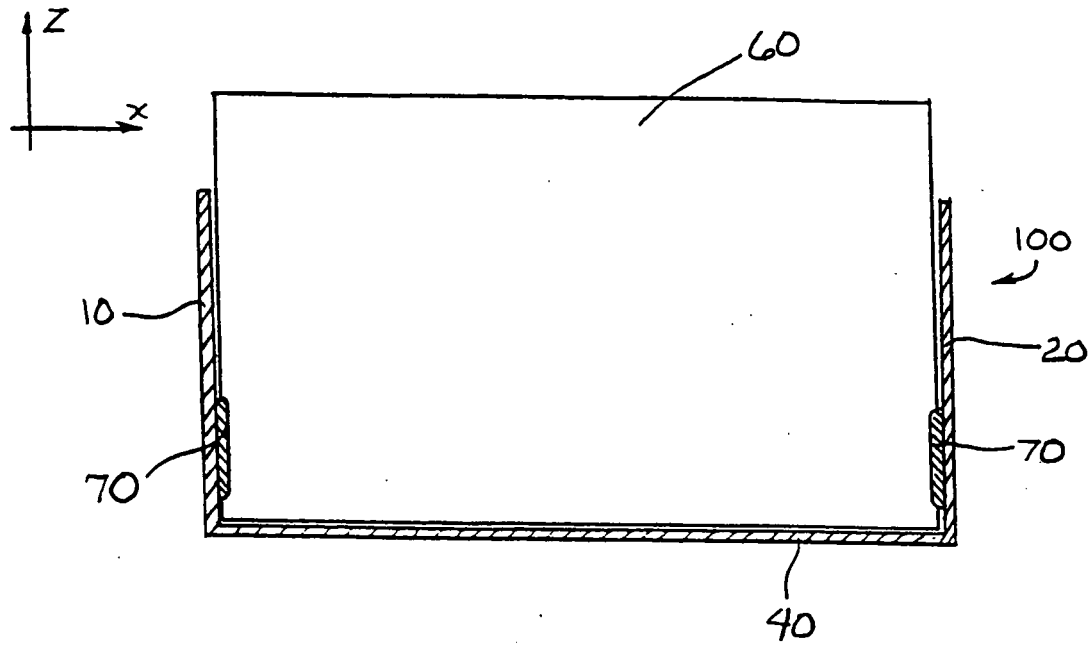


FIG 2

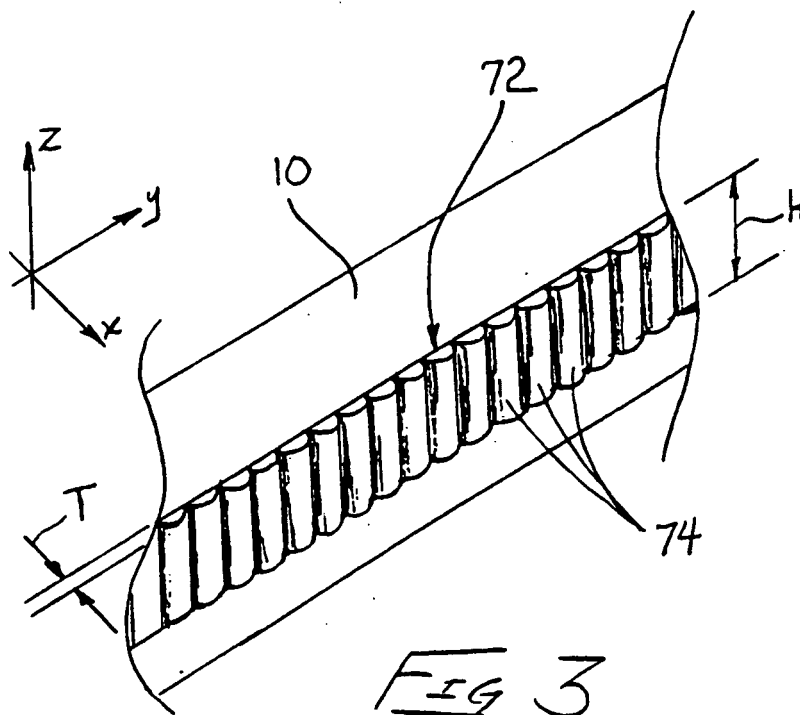


FIG 3

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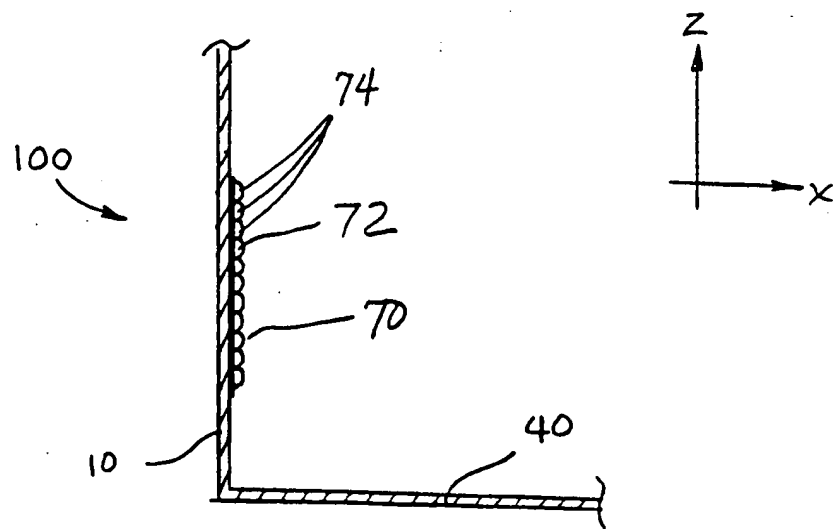


FIG 4

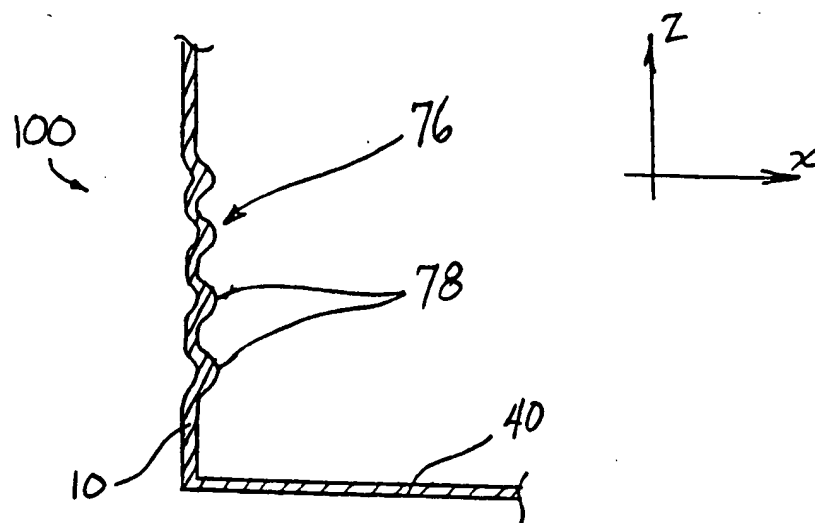


FIG 5

INTERNATIONAL SEARCH REPORT

Intern. Application No.
PCT/US 00/30807

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B65D5/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 940 345 A (SMITH PACKAGING LTD) 8 September 1999 (1999-09-08) column 1-4; figures 1-9	1,2,4-6, 9,10
X,P	FR 2 789 973 A (DUCROS) 25 August 2000 (2000-08-25) page 1-6; figures 1-5	1,2,4-6, 9,10
X	FR 2 703 335 A (SOC. CONT. DU CARTON ONDULE SOCAR) 7 October 1994 (1994-10-07) page 4, line 18-23; figures 1-3	1,3,9,10
A	FR 1 600 697 A (BARZILAY) 4 September 1970 (1970-09-04) page 1-3; figures 1-4	1
A	US 5 913 426 A (LOTZ RENFRO) 22 July 1999 (1999-07-22)	
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

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Date of the actual completion of the international search

9 March 2001

Date of mailing of the international search report

19/03/2001

Name and mailing address of the ISA

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Vollering, J

INTERNATIONAL SEARCH REPORT

Interr al Application No

PCT/US 00/30807

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 4 542 847 A (LINDSTROM) 24 September 1985 (1985-09-24) cited in the application</p> <p>-----</p>	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/30807

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